ELECTRICAL ENGINEERING - Catalog Year 2016

Total Credits = 120 -123

Freshman Year *Fall* Semester

Course Code	Description	Cr	
CHM 101	General Chemistry Lec I (A1)	3	
CHM 102	General Chemistry I Lab	1	
ECN 201	Principles of Microeconomics (A2)	3	
EGR 105	Foundations of Engineering I (A4)	1	
MTH 141	Calculus I (A1, B3)	4	
	General Education Outcome(s)*	3	
		15	

Freshman Year *Spring* Semester

Course Code	Description	Cr	
CSC 200	Computer Problem Solving	4	
EGR 106	Foundations of Engineering II (A4)	2	
ELE 101	Intro to Electrical Engineering	1	
MTH 142	Calculus II (B3)	4	
PHY 203	Elementary Physics I (A1)	3	
PHY 273	Elementary Physics Lab I (A1)	1	
		15	

Sophomore Year *Fall* Semester

Course Code	Description	Cr	
ELE 201	Digital Circuit Design	3	
ELE 202	Digital Circuit Design Lab	1	
MTH 362	Advanced Engineering Mathematics I	3	
PHY 204	Elementary Physics II (A1)	3	
PHY 274	Elementary Physics Lab II (A1)	1	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
		17	

Sophomore Year *Spring* Semester

Course Code	Description	Cr	
ELE 205	Microprocessors	2	
ELE 206	Microprocessor Lab	1	
ELE 212	Linear Circuit Theory	3	
ELE 215	Linear Circuits Lab	2	
MTH 243	Calculus for Functions of Several Vars (A1, B3)	3	
PHY 205	Elementary Physics III Lec (A1, B3)	3	
PHY 275	Elementary Physics III Lab (A1, B3)	1	
		15	

Junior Year *Fall* Semester

Course Code	Description	Cr	
ELE 313	Linear Systems	3	
ELE 331	Intro to Solid State Devices	4	
ELE 338	Electronics I	3	
ELE 339	Electronics I Lab	1	
MTH 451 ***or*** ISE 311	Intro to Probability and Statistics ***or*** Probability and Statistics for Engineers	3	
		14	

Junior Year *Spring* Semester

Course Code	Description	Cr	
ELE 301	Electronic Design Automation	3	
ELE 302	Electronic Design Automation Lab	1	
ELE 314	Linear Systems and Signals	3	
ELE 322	Electromagnetic Fields I	4	
ELE 343	Electronics II	3	
ELE 344	Electronics II Lab	1	
		15	

Senior Year *Fall* Semester

Course Code	Description	Cr	
ELE 400	Intro to Professional Practice	1	
ELE 480	Capstone Design I	3	
	Professional Elective**	4	
	Professional Elective**	3-4	
	Professional Elective**	3-4	
		14 -16	

Senior Year *Spring* Semester

Course Code	Description	Cr	
ELE 481	Capstone Design II	3	
	Professional Elective**	3-4	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
		15 -16	

***General Education Outcomes:** if all Outcomes are satisfied in fewer spaces than provided, you must take a course of your choice (Free Elective) to fill each remaining space in order to meet the required earned credit total of your degree plan. See the "General Education Outcomes" section at the bottom of page two for more information on satisfying these requirements.

****Professional Electives:** ***Four (4)*** courses that satisfy ***both*** of the following:

(a) ***Three*** **(3)** courses from: ELE 401/402, 423, 425, 432, 435/436, 444/445, 447/448, 457, 458/459,

and at least one **(1)** must be from; 401/402, 423, 432, 444/445, 447/448,

and at least one **(1)** must include a lab component (401/402, 435/436, 444/445, 447/448, 458/459);

and **(b)** The ***fourth*** course must be from: an additional course from ***(a) above;*** BME/ELE 461; ELE 405/406, 408/409, 437, 438, 470; with prior approval of the Electrical, Computer, and Biomedical Engineering department chairperson, any other 300- or 400-level College of Engineering course not required by the ELE major.

Name _____ **ID #** _____

ELECTRICAL ENGINEERING - Catalog Year 2016 **120-123 Credits**

SPECIFIED MATH, SCIENCE, AND ENGINEERING COURSES

INTRODUCTORY ENGINEERING

Sem	Course	Cr	Grade	QP	Note
	EGR 105 (A4)	1			
	EGR 106 (A4)	2			
		3			

MATHEMATICS

Sem	Course	Cr	Grade	QP	Note
	MTH 141 (A1 & B3)	4			
	MTH 142 (B3)	4			
	MTH 243 (A1 & B3)	3			
	MTH 362	3			
	MTH 451 *or* ISE 311	3			
		17			

NATURAL SCIENCES

Sem	Course	Cr	Grade	QP	Note
	CHM 101 (A1)	3			
	CHM 102	1			
	PHY 203 (A1)	3			
	PHY 273 (A1)	1			
	PHY 204 (A1)	3			
	PHY 274 (A1)	1			
	PHY 205 (A1 & B3)	3			
	PHY 275 (A1 & B3)	1			
		16			

COMPUTER SCIENCE

Sem	Course	Cr	Grade	QP	Note
	CSC 200	4			
		4			

ENGINEERING SCIENCE AND DESIGN

Sem	Course	Cr	Grade	QP	Note
	ELE 101	1			
	ELE 201	3			
	ELE 202	1			
	ELE 205	2			
	ELE 206	1			
	ELE 212	3			
	ELE 215	2			
	ELE 301	3			
	ELE 302	1			
	ELE 313	3			
	ELE 314	3			
	ELE 322	4			
	ELE 331	4			
	ELE 338	3			
	ELE 339	1			
	ELE 343	3			
	ELE 344	1			
	ELE 400	1			
	ELE 480 **[capstone]**	3			
	ELE 481 **[capstone]**	3			
		46			

**PROFESSIONAL ELECTIVES

Sem	Course	Cr	Grade	QP	Note
		4			
		3-4			
		3-4			
		3-4			
		13-16			

*GENERAL EDUCATION OUTCOMES

Sem	Course	Cr	Grade	QP	Note
Science, Technology, Engineering, and Math (STEM) (A1)					
---	CHM & PHY (see above)	15	---	---	---
Social and Behaviorial Sciences (A2)					
	ECN 201	3			
Humanities (A3)					
Arts & Design (A4)					
---	EGR 105 & 106 (see above)	3	---	---	---
Write Effectively (B1)					
Communicate Effectively (B2)					
Mathematical, Statistical, or Computational Strategies (B3)					
---	MTH (see above)	11	---	---	---
Information Literacy (B4)					

Sem	Course	Cr	Grade	QP	Note
Civic Knowledge & Responsibilities (C1)					
Global Responsibilities (C2)					
Diversity & Inclusion (C3)					
Ability to Synthesize (D1)					
---	*TBD from major requirements*	3	---	---	---
Grand Challenge (at least one course must be coded with a "G")					
Free Elective					
If you fulfill all Outcomes in fewer spaces than indicated on page one, you must use those additional spaces to take course(s) of your choice to reach your degree credit total (120-123)					

* **General Education Outcomes:** at least 40 credits must be completed. (A1-D1) must be met by at least three credits. A single course may satisfy one or two outcomes, and at least one course must be a "Grand Challenge". No more than twelve credits can be from the same course code except HPR. General education courses may also be used to meet requirements of your major(s) or minor(s) when appropriate.

** **Professional Electives:** ***Four (4)*** courses that satisfy ***both*** of the following:
(a) ***Three (3)*** from ELE 401/402, 423, 425, 432, 435/436, 444/445, 447/448, 457, 458/459 of which at least one (1) must be from 401/402, 423, 432, 444/445,447/448 and at least one (1) must include a lab component (401/402, 435/436, 444/445, 447/448, 458/459). **(b)** The ***fourth*** course must be from: an additional course from **(a)** above; BME/ELE 461; ELE 405/406, 408/409, 437, 438, 470; with prior approval of the ECBE Department chairperson, any 300- or 400-level College of Engineering course not required by the ELE major.